with the term "estrogen".

REMARKS

The specification and Claim 7 have been amended to amend the spelling of the word "estrogen". No new matter has been added. Claim 1 has been amended and Claim 2 has been cancelled. Claims 3 to 10 have been amended to review the dependency accordingly and to refer to a construct.

I. Paragraphs 2 & 3 of the Office Action

The Applicant wishes to respectfully put on record that, contrary to the statement set forth in paragraphs 2-3 of the Office Action, the election of group I was traversed in the response filed on 20 March 2002. Consequently the Applicant has not conceded that Claims 11 to 23 belong in a separate Patent Application.

II. Paragraphs 4 & 5 of the Office Action

Copies of the references cited in the Supplemental Information disclosure statement are enclosed.

III Paragraphs 6, 7 & 8 of the Office Action

The spelling of the word "estrogen" noted by the Examiner has been amended throughout the specification. The remarks made with respect to the specification and the drawings have been noted.

IV. Paragraph 9 of the Office Action

A new abstract complying with the requirements of 37 CFR 1.72 is hereby submitted.

V. Claims' rejections made under 35 U.S.C. 112

Following the objection set forth in paragraph 12 of the Office Action, Claim 1 has been amended to define the nucleotide binding portion of the PDCP as comprising a binding domain of a nuclear steroid receptor. Such amendment is supported in the first paragraph of page 16 of the specification as filed and no new matter has been added.

Following the objection set forth in paragraph 14 of the Office Action, Claim 1 has been amended to indicate that the object of the invention is a synthetic construct. The construct is an association of molecules comprising a recombinant polynucleotide and a chimeric protein. As such it does not necessarily have all the characteristics of a virus particle and this is why the expression "peptide display carrier package" was used. It is believed the expression "synthetic construct" clarifies that the invention defined in Claim 1 is not a bacterial cell.

Also, Claim 1 has been further amended to define and give proper antecedent to the expression "chimeric protein-encoding portion of the recombinant polynucleotide". It is now stated that the recombinant polynucleotide comprises a chimeric protein-encoding portion.

The expression "non-sequence specific protein" used in former Claims 2 and 3 has also been objected to by the Examiner. The subject matter of Claim 2 has been incorporated in Claim 1 and the objected expression has been deleted. It is now specified that the binding moiety is a protein able to bind to a polynucleotide irrespective of the sequence of the polynucleotide, ie. the protein binds to the polynucleotide in a non-sequence specific manner.

It is therefore believed that the objections raised in the Office Action under 35 U.S.C § 112 have been overcome.

VI. Objections raised under 35 U.S.C. 102

As mentioned above Claim 1 has been amended in order to further define the nucleotide binding portion as being a binding domain of a nuclear steroid receptor. Also, the subject matter of Claim 2 has been introduced within newly amended Claim 1.

Schatz *et al* does not disclose nor suggest a synthetic construct where at least a portion of the recombinant polynucleotide which encode a portion of the associated chimeric protein is protected by a protein which is not specific to the nucleotide thereby protected. Indeed neither Claim 2 nor Claim 3 were considered by the Examiner as anticipated by Schatz *et al.*

Therefore Claim 1, as amended, is patentable over Schatz et al.

In view of the amendment and arguments set forth above it is believe that the present application is in condition for allowance which action is respectfully requested.

Respectfully submitted,

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UNDER 37 C.F.R. 1.8(a)

I hereby certify that this paper, along with any paper referred to as being attached or enclosed, is being deposited with the United States Postal Service on the date indicated below, with sufficient postage, as first class mail, in an envelope addressed to: Commissioner for Patents, Washington, DC 20231

(signature)

BY: Sherry Barag

DATE: 19 August 2002

VERSION WITH MARKINGS TO SHOW CHANGES MADE

CLAIMS

Please replace Claim 1 with the following amended Claim:

1. (Once Amended) A synthetic construct for use as a peptide display carrier package (PDCP), said construct [package] comprising a recombinant polynucleotide-chimeric protein complex wherein the chimeric protein has a nucleotide binding portion which comprises a binding domain of a nuclear steroid receptor and a target peptide portion, wherein said recombinant polynucleotide comprises a chimeric-protein encoding portion and a nucleotide sequence motif which is specifically bound by said nucleotide binding portion, and wherein at least the chimeric protein-encoding portion of the recombinant polynucleotide not bound by the chimeric protein nucleotide binding portion is protected by a binding moiety which is a protein able to bind to polynucleotides irrespective of the nucleotide sequence.

Claim 2 has been cancelled.

3. (Once Amended) A construct [peptide display carrier package (PDCP)] as claimed in Claim [2]1, wherein said binding moiety [non-sequence-specific protein] is a viral coat protein.

4. (Once Amended) A construct [peptide display carrier package (PDCP)] as claimed in either one [any one] of Claims 1 [to]and 3, wherein said target peptide portion is displayed externally on the package.

5. (Once Amended) A construct [peptide display carrier package (PDCP)] as claimed in any one of Claims 1 [to], 3 and 4 wherein said recombinant polynucleotide includes a linker sequence between the nucleotide sequence encoding the nucleotide binding portion and the nucleotide sequence encoding the target peptide portion.

6. (Once Amended) A construct [peptide display carrier package (PDCP)] as claimed in any one of Claims 1 and 3 to 5 wherein said recombinant polynucleotide has two or more nucleotide sequence motifs each of which can be bound by the nucleotide binding portion of the chimeric protein.

7. (Once Amended) A construct [peptide display carrier package (PDCP)] as claimed in any one of Claims 1 and 3 to 6 wherein said nucleotide binding portion is a DNA binding domain of an [o]estrogen or progesterone receptor.

8. (Once Amended) A construct [peptide display carrier package (PDCP)] as claimed in any one of Claims 1 and 3 to 7 wherein said recombinant polynucleotide is bound to said chimeric protein as single stranded DNA.

9. (Once Amended) A construct [peptide display carrier package (PDCP)] as claimed in any one of Claims 1 and 3 to 8 wherein said target peptide portion is located at the N and/or C terminal of the chimeric protein.

10. (Once Amended) A construct [peptide display carrier package (PDCP)] as claimed in any one of Claims 1 and 3 to 9 which is produced in a host cell transformed with said recombinant polynucleotide and extruded therefrom without lysis of the host cell.

ABSTRACT

There is described a method of isolating nucleotide sequences encoding target peptides from DNA libraries using DNA binding proteins to link the peptide to the sequence which encodes it. DNA libraries are prepared from cells encoding the protein of interest, or from synthetic DNA, and inserted into, or adjacent to, a DNA binding protein in an expression vector to create a chimeric fusion protein. Incorporation of the vector DNA into a carrier package, during expression of the chimeric infusion protein, results in the production of a peptide display carrier package (PDCP) displaying DNA-bound fusion protein on the external surface of the carrier package. Employment of affinity purification techniques results in the PDCP particles containing sequences encoding the desired peptide to be selected and the desired nucleotide sequences obtained therefrom.

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